

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/681,611	AVINASH ET AL.	
	Examiner	Art Unit	
	Shefali D Patel	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to the amendment filed on August 11, 2004.
2.  The allowed claim(s) is/are 1-28.
3.  The drawings filed on 11 August 2004 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached  
1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of  
Paper No./Mail Date \_\_\_\_\_.
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date 2/14/05.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

**EXAMINER'S AMENDMENT AND ALLOWANCE**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Christopher Carroll (Reg. No. 52, 700) on February 14, 2005.

The application has been amended as follows:

Please cancel claim 29.

Amend claim 26 as follow:

Line 10 after the word "image", add -- based on a characteristic mask computed using the low energy level image and by comparing one or more pixels of a gradient mask to one or more corresponding pixels of a localization mask --.

Amend claim 27 as follow:

Line 1 delete "further comprising:" insert after "claim 26," -- wherein said --

Line 2 delete "a characteristic mask" insert after "computing" -- step includes --

Amend claim 28 as follow:

Line 1-2 delete "further comprising: determining a characteristic mask"

Line 1 insert after "claim 26;" -- computing step includes --

2. The following is an examiner's statement of reasons for allowance:

3. The reasons for allowance for claims 2-5, 8-12, 14-17 and 21-25 are disclosed in an Office Action mailed on May 19, 2004 and the reasons are not repeated herein, but are incorporated by reference.

4. The instant invention defines a method for automatically determining a structure cancelled image in a dual energy decomposition system as claimed in independent claims 1-5, 8-12, 14-17, 21, and 26.

The claimed invention distinguishes over the prior art by the manner in which the characteristic mask is computed. The claimed combination allows for improving a method of for automatically determining tissue cancellation parameters in x-ray dual energy imaging. Determining a structure cancelled image in a dual energy decomposition system is conventional (i.e. Shimura, US 5,301,107). However, the prior art of record fails to teach computing a characteristic mask using the low energy level image and by comparing one or more pixels of a gradient mask to one or more corresponding pixels of a localization mask as recited in claims 1 and 26. These elements in combination with all of the other elements of the claims are not taught or fairly suggested in the prior art of record. The dependent claims 6-7, 13, 18-20, 22-25, and 27-28 are allowed for the same reasons.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shefali D Patel whose telephone number is 703-306-4182. The examiner can normally be reached on M-F 8:00am - 5:00pm (First Friday Off).

Art Unit: 2621

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh M Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shefali D Patel  
Examiner  
Art Unit 2621

February 14, 2005



BRIAN WERNER  
PRIMARY EXAMINER



UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
P.O. Box 1450  
ALEXANDRIA, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

# Fax Cover Sheet

Date: 11 Feb 2005

To: Mr. Christopher R. Carroll (Reg. No. 52,700)	From: Shefali D Patel
Application/Control Number: 09/681,611	Art Unit: 2621
Fax No.: 312-775-8100	Phone No.: 703-306-4182
Voice No.: (312) 775-8000	Return Fax No.: (703) 872-9306
Re:	CC:

Urgent     For Review     For Comment     For Reply     Per Your Request

Comments:

Mr. Carroll,

After speaking with you on the phone today, I am sending you some suggestions for allowance of this application. Please look at these carefully and give me a call with your comments. Please see the attach copy.

Thank you,

Shefali Patel

Number of pages 2 including this page

#### STATEMENT OF CONFIDENTIALITY

This facsimile transmission is an Official U.S. Government document which may contain information which is privileged and confidential. It is intended only for use of the recipient named above. If you are not the intended recipient, any dissemination, distribution or copying of this document is strictly prohibited. If this document is received in error, you are requested to immediately notify the sender at the above indicated telephone number and return the entire document in an envelope addressed to:

Commissioner for Patents  
P.O. Box 1450  
Alexandria VA 22313-1450

## SUGGESTIONS FOR ALLOWANCE

Claims 2-25 are currently in a condition for allowance as being either previously allowed or objected to.

Claim 1 has been amended by further clarifying how the characteristic mask is computed. That is, claim 1 now requires computation of the characteristic mask using the low energy level image and by comparing a gradient mask with a corresponding localization mask. This amendment is supported by the specification at paragraph 30. The gradient mask is defined at paragraph 29, while a localization mask is an intensity thresholded low energy level image as defined at paragraph 30. The Shimura reference does not teach these elements.

Claims 26 and 29 will continue to be rejected over the prior art. However, in order to expedite an allowance, the examiner suggests clarifying these claims in manner commensurate with the amendment to claim 1. For example:

Claim 26 on page 23, line 10, after the word "image", add -- based on a characteristic mask computed using the low energy level image and by comparing one or more pixels of a gradient mask to one or more corresponding pixels of a localization mask --.

Claim 29 would require an analogous amendment if possible, or cancellation.